



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,364	10/14/2003	Douglas Edward Woehler	C283.101.102	4382
25281	7590	07/17/2006	EXAMINER	
DICKE, BILLIG & CZAJA, P.L.L.C. FIFTH STREET TOWERS 100 SOUTH FIFTH STREET, SUITE 2250 MINNEAPOLIS, MN 55402			PIPALA, EDWARD J	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/685,364	WOEHLER, DOUGLAS EDWARD	
	Examiner	Art Unit	
	Edward Pipala	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 16-29 and 47-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 30-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/20/043</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-15 and 30-46 in the reply filed on 4/24/06 is acknowledged.

Claims 16-29 and 47-59 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Objections

2. Claims 3 and 32 are objected to because of the following informalities: in line 4 of each of these claims "closest" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 and 30-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallet et al. (6,920,390) in view of Runnels (4,527,158) and Giannopoulos et al. (2003/0125868).

Each of independent claims 1 and 30 recite a location and identification system comprising a location transmitter having a physical location code which is communicated by an optical signal and a location identifier having an object identification code and configured to transmit an object identification signal and the location code. The embodiment of claim 1 is simply that of a ground surface location and identification system, whereas that of claim 30 additionally recites an embodiment encompassing an airfield ground surface location system in which a vehicle code is transmitted as the object identification data.

Mallet et al. disclose a surface traffic movement system in which SMART Board surface displays are used to provide route guidance instructions to aircraft at ramp and taxiway intersections, and which confirm to the pilot that their aircraft is at the correct location. Further, in column 2 under the heading of Summary Of the Invention Mallet et al. also disclose that for vehicles equipped with digital message signaling devices that the send/receive transceiver associated with the SMART Board is capable of receiving a vehicle signal and conveying it to an air traffic control tower as well as the use of a unique location code generated by the system and visible on the message boards only at the specified locations. Mallet et al., does not disclose doing so solely by means of the optical signal, nor that the location code is included in the optical communication.

Runnels discloses an aircraft collision pilot warning indicating system in which a beacon having a plurality of light detectors may be used as a transmitter and receiver using the visible or infrared spectrum, and which operates in a passive and semi-

Art Unit: 3663

cooperative manner to detect light radiations emitted by other nearby aircraft (col. 1, ll. 18-39).

Giannopoulos et al. disclose a navigation system in which light sources throughout a building, where section [0025] particularly discloses encoding a unique code which is transmitted by the modulated light source and that such an interface may also include a data port or a wireless interface using infrared or radio frequencies. Section [0015] thereof further suggests and embodiment of this positioning system for providing navigation instruction to a user within a mall, hotel or airport.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the teachings of Runnels and Giannopoulos et al. within the context of the surface traffic movement system of Mallet et al., since all are in the field of light based location or position determination as well as in the field of aircraft collision avoidance and guidance, and because using optical or infrared communication does not interfere with the other numerous radio frequencies being used in an aircraft/airfield environment.

With respect to claims 2 and 31, which recite the use of a plurality of location transmitters with each having a corresponding physical location code, please see either of Mallet et al. or Giannopoulos et al. which disclose the use of a plurality of such SMART Boards and lighting fixtures, respectively.

Art Unit: 3663

With respect to claims 3-6, 11-15, 32-35 and 42-46 relating to closest proximity, the use of a light source and encoder, the use of an LED array or laser diode, receipt/transmission and processing of location code signals, the use of a plurality of optical sensors, and display of location within a coverage area, please also see col. 3, ll. 45-50, col. 4, ll. 1-22, col. 6, ll. 13-65, col. 7, ll. 3-30, col. 8, ll. 61-67, col. 9, ll. 26-49, Mallet et al., col. 1, ll. 18-41, col. 3, ll. 28-34, col. 6, ll. 35-68 of Runnels, as well as section [0030] of Giannopoulos et al.

With respect to remaining dependent claims 7-10 and 36-41 relating to power switches, microcontrollers, particular coding schemes, tail number and flight number identification, please see Runnels for the particulars of controlling the optical emitters, etc., and in particular col. 6, ll. 30-65 and col. 9, ll. 34-43 which teach that the SMART Board system keeps track of aircraft movement and routes by aircraft ID.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Pipala whose telephone number is 571-272-1360. The examiner can normally be reached on M-F 9-5:30.

Art Unit: 3663

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ejp


JACK KEITH
SUPERVISORY PATENT EXAMINER